

Please add the following new claims:

--17. (New) A diode, comprising:

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a semiconductor substrate arranged between a first metallic electrode and a second metallic electrode, the substrate highly doped in a first zone to form an ohmic transition to the first electrode and weakly doped in a second zone to form a rectifying transition to the second electrode;

wherein the first zone and the second zone are separated by a third zone of the semiconductor substrate doped more weakly than the second zone, the first zone, the second zone and the third zone having a same conductivity type, the second zone enclosed between the second electrode and the third zone.

18. (New) The diode according to claim 17, wherein a breakdown voltage between the second electrode and the third zone is at least three times as great as a breakdown voltage between the second electrode and the second zone.

19. (New) The diode according to claim 17, wherein the second zone is raised over a surface of the third zone, and the second electrode covers the second zone in a hat shape that includes a circumferential rim that touches the third zone.

20. (New) The diode according to claim 17, wherein the second zone is planar and island-type on a surface of the third zone, and the second electrode is flat and touches the third zone in an edge region.

21. (New) The diode according to claim 17, further comprising an insulating layer formed on a surface of the third zone surrounding the second zone, the edge of the second electrode touching the insulating layer.

22. (New) The diode according to claim 17, wherein at least one of the first electrode and the second electrode is applied to an oxide-free surface of the semiconductor substrate.

23. (New) The diode according to claim 17, wherein the semiconductor substrate includes one of Si and SiC.

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cont.

24. (New) A method for manufacturing a diode, comprising the steps of:  
producing, on a surface of a third zone of a semiconductor substrate that includes a strongly doped first zone, the third having weak doping, a second zone having stronger doping than the third zone, the first zone, the second zone and the third zone having a same conductivity type; and  
depositing on the surface a first metallic electrode that encloses the second zone between itself and the third zone.

25. (New) The method according to claim 24, wherein the second zone is produced in the producing step on an overall surface of the third zone, the method further comprising the step of subsequently eroding the second zone locally to expose the third zone locally.

26. (New) The method according to claim 24, wherein the second zone is produced in the producing step be epitaxial layer growth.

27. (New) The method according to claim 25, wherein the eroding step includes the substep of sawing with a circular saw.

28. (New) The method according to claim 25, wherein the eroding step includes the substeps of masking and etching.

29. (New) The method according to claim 24, wherein the depositing step includes the substep of depositing the first electrode and a second metallic electrode by sputtering.

30. (New) The method according to claim 24, further comprising the step of sputtering before the depositing step make the surface of the semiconductor substrate oxide-free.

31. (New) The method according to claim 24, further comprising the step of heating the semiconductor substrate in an ultrahigh vacuum before the depositing step to free the surface of the semiconductor substrate of oxide.